Electrical Stimulation of the Lower Esophageal Sphincter for Gastroesophageal Reflux Disease after Sleeve Gastrectomy

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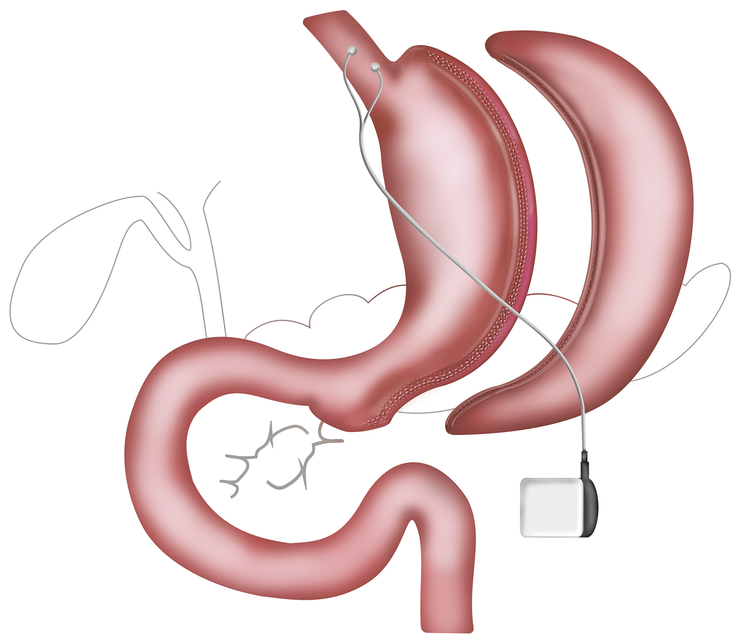
Background:

- Sleeve Gastrectomy (SG):
  - is the most commonly performed bariatric procedure
  - results in new-onset GERD and may worsen preexisting GERD
- Patients not well controlled with PPI are switched to more invasive, anatomy altering, gastric bypass surgery (RYGB)
- Lower Esophageal Sphincter (LES) electrical stimulation(ES) therapy might provide an alternative to RYGB

Methods:

- 9 patients after SG and symptomatic GERD despite maximum antireflux-therapy
- Laparoscopic placement of electrodes for ES of LES with hiatoplasty
- ES delivered at 5mA, 220uSec pulses in 12 30-minute sessions daily



Results:

- 5 female patients (56%)
- median Body Mass Index 41kg/m^2 (min 31- max 53)
- median time after SG 3.2 years
- median preoperative %pH<4 14.4 (9.7 – 23.1)
- no perioperative complications; one patient readmitted for pain

After 6 months (n=8, 89%):

- esophageal acid exposure normalized (<4% pH<4) in 6 patients (75%)
- 2 patients on PPI for reasons other than GERD

Conclusion:

Electrical Stimulation of Lower Esophageal Sphincter:

- in patients with GERD after SG is safe and efficient
- results in significant improvement of GERD symptoms and esophageal acid exposure